

ABSTRACT OF THE DISCLOSURE

A gear state diagnostic method using frequency demodulation includes the steps of (a) detecting a voltage value that is linked to changes in rotational speed of a gear, the voltage value being output by a pulse generator; (b) performing frequency modulation of the voltage value by monitoring means; (c) acquiring the rotational speed of the gear by performing frequency demodulation of the frequency modulated voltage value using sampling method; and (d) monitoring the demodulated frequency and tracking changes in rotation of the gear to determine whether there are errors in the gear.